CHAPTER XV

Engineer Ground Forces Units

Engineer units which trained under the Army Ground Forces (AGF) were either organic to divisions or were nondivisional units which could be attached to armies or corps in variable numbers. The number of divisional units to be trained was the same as the number of divisions, since each division, of whatever type, had one organic engineer battalion or squadron. Although the number of divisions in the troop basis was subject to revision and underwent several changes, the most unpredictable element was nondivisional support. As strategy changed, as operations progressed, as emphasis shifted from one theater of operations to another, the need for these units also changed. Some campaigns required large numbers of nondivisional combat battalions, treadway bridge companies, heavy ponton battalions, and light ponton companies. For others, topographic battalions, topographic companies, and water supply companies were crucial. Light equipment companies, maintenance companies, and depot companies fluctuated in importance from time to time.[1]

McNair, Commanding General, AGF, a man of positive ideas and unflinching determination, made a definite personal impress upon the entire AGF organization and upon the training of all AGF troops of whatever variety. Just as he kept himself physically aloof from his own staff, emerging from his office once each year on Christmas Eve for a general tour of the headquarters, so also did he separate his staff from the rest of the War Department. Refusing space in the Pentagon, he preferred to keep his organization across the river at the Army War College.[2]

Colonel Hughes, Ground Engineer, occupied the same relative position at McNair's headquarters that Godfrey held in AAF, with some important differences. Although Godfrey found himself torn between two powerful forces, his office carried enough authority to bring measurable weight to bear upon problems concerning engineer aviation troops. Hughes was, by contrast, completely integrated into the established and conservative Ground Forces headquarters, which was an outgrowth of GHQ. A separate Engineer Section did not evolve until 12 July 1942, after several months of operation as a construction liai-

[1] Many of the Army Ground Forces headquarters files have been inadvertently destroyed. Much reliance has therefore been placed upon: (1) AGF Study 14, Problems of Nondivisional Training in the Army Ground Forces; (2) Palmer, Wiley and Keast, *Procurement and Training of Ground Combat Troops,* "The Provision of Enlisted Replacements," "The Building and Training of Infantry Divisions," and "The Training of Nondivisional Units"; (3) Greenfield, Palmer, and Wiley, *Organization of Ground Combat Troops,* "Reorganization of Ground Troops for Combat." However, since AGF headquarters files still make up the bulk of those used in the preparation of this chapter, citations from that source have no depository indicated.

[2] A Short History of the Army Ground Forces, Ch. II, pp. 51–56. AGF Study, Jul 44.

LT. GEN. LESLEY J. McNAIR, *Commanding General of AGF, with one of the general officers at the Third Army maneuver area, Louisiana, 1943.*

son office between AGF and the Corps of Engineers. The elevation to special staff status occasioned no abrupt change. A part of the meager staff of six officers retained the liaison function for months thereafter. Much of the responsibility for training engineer troops in the AGF remained perforce with the AGF G–3, who sought concurrence from the Engineer Section on matters which involved Engineer doctrine, training, and equipment. The section was too small to prepare training literature, and inadequate in numbers to supervise the numerous engineer units. Hughes found that he could not, as Godfrey did, distribute information on the latest developments in Engineer doctrine from his office or disseminate news of technical developments. AGF also forbade any regular conferences between the section and OCE. McNair ran his own show, taking occasional advice from his engineer consultants.[3]

To achieve his mission as he interpreted it, McNair modeled the AGF training establishment as closely as possible upon the structure of an active combat theater. His headquarters remained lean. A martial spirit in keeping with a theater command pervaded the old Army War College grounds. Contrary to the ASF practice of concentrating a number of units of like character at UTC's under the guidance of a few experienced men and with a common pool of training equipment, AGF units trained together from activation to sailing date under what McNair termed the normal association of troops. This normal association approximated the organization which would obtain in combat—training being conducted within tactical units. Emphasis centered upon the preparation of divisions, and upon teamwork at corps and army levels.[4]

Divisional engineer combat battalions profited from this emphasis even though they shared some of the hardships common to all AGF units. As units organic to divisions they had one invaluable asset. They trained on the longer schedule allowed for the preparation of divisions. Equipment shortages spread over a year or more were not as serious as similar shortages during a six-month period. Practice in road and bridge building, mine laying and clearing, and obstacle construction and demolition continued over a longer span of time. Unit

[3] Col. Hans W. Holmer, History of the Engineer Section, Hq AGF (four-page pamphlet, n. d.). Personal Papers of Col LeRoy G. Gilbert. (2) Ltr, Hughes to C of EHD, 28 Sep 55, with Incl. (3) Interv, Gilbert, 14 Sep 55.

[4] (1) A Short History of the Army Ground Forces, Ch. II, pp. 37–38, 44, 52, 53. AGF Study, Jul 44. (2) AGF Study 11, Training in the Ground Army, 1942–45, p. 9.

training of specialists could be prolonged. Supervision by division officers was direct and continuous.

AGF indeed trained divisions with great success, but at the expense of nondivisional units. McNair was under the impression that these comparatively small units would not need to be organized early, would present few difficulties, and could be trained quickly. Therefore, he worried little in early 1942 about having a balanced force of these "spare parts" on hand. Even those activated received little technical training as units, in spite of the fact that many of them carried complex equipment requiring a number of specialists. Inimical to their proper employment during the unit training phase was McNair's insistence upon combat instruction and his fear that the Army would become overspecialized and encumbered with machinery.[5] His advice to specialists was, "Do not allow yourself to become a technician only. Become first and last a fighting man." A fundamental tenet, held doggedly, was that despite "the technical and complicated equipment manned by a modern army . . . the fact remains that the most compelling need in this, as in past wars, is the front-line fighter and his leader. . . . Victories are won in the forward areas—by men with brains and fighting hearts, not by machines." The "final victory against a determined enemy is by close combat." [6]

AGF might have compensated in part for the heavy emphasis upon combat training in nondivisional units by careful activation plans, attention to equipment needs, and responsible supervision. Not until June 1943 did AGF provide an orderly mobilization procedure which paralleled that for divisions. Instead, cadres and officers from diverse sources, without any special preparation separately or as a group, arrived upon the scene simultaneously with fillers and equipment to form a unit. Thereafter, they were too often on their own. The staff at AGF headquarters, which McNair kept purposely small, could do little else than coordinate and supervise the activities of larger units. Nondivisional units developed according to their individual abilities. Officers from divisions and separate corps to whom they looked for guidance were too busily occupied with training their own units to take on anything extra—in fact they made matters more difficult by competing for post facilities and supplies. Their reputations rested squarely upon the preparation of organic units, not at all upon how the "spare parts" made out.[7]

Even without these complications the formation of new engineer units seemed formidable in 1942. During the first few weeks of the year, before any definite invasion plans had matured, the mobilization of new units had begun to strain the ability of older units to furnish trained cadres. The twelve-month period just preceding the April agreements with Great Britain had seen the number of engineer divisional battalions and squadrons in preparation within the United States grow from 15 to 35. Engineer combat regiments increased from 4 to 10, nondivisional battalions and companies from 20 to 59.[8] Still, the situation early in

[5] Memo, McNair for G–3 WDGS, 3 Aug 42, sub: Pers and Tng Status of Units of the AGF. 320.2, Binder 6 (S).

[6] All quoted in A Short History of the Army Ground Forces, Ch. II, pp. 31–33. AGF Study, Jul 44.

[7] Memo, McNair for G–3 WDGS, 9 Sep 42, sub: Pers and Tng Status of Units of the AGF. 320.2, Binder 6 (S).

[8] (1) OCE Info Bul 84, 10 Apr 41, sub: Orgn of Engr Units. (2) Directory of Army of the United States as of 1 April 1942 (Continental Limits of the United States).

1942 was not yet desperate. The question was how well trained the cadres were and how inconvenient it was for the older units to furnish so many. Half-joking, the commanding officer of a divisional engineer combat battalion wrote to Bessell, of the Military Personnel Branch, on 24 January 1942:

> I don't know why I ever write to you to ask for changes in your personnel orders—we never get them anyway! Apparently, every list I send you gives you new ideas. The only use I have seen made of our lists is to let you know which men we consider particularly valuable so you can pick them.

More seriously, the same officer pointed out that taking excessive numbers of men from his unit as cadres had led to confusion as to the primary goal of training:

> If we are to furnish well-trained officers for higher positions than they now occupy, and well-trained cadre, we should concentrate on the training of these men in the positions they are to fill. If we are to shoot for combat efficiency as rapidly as possible, we should put each man in the place he is to fill and make him thoroughly efficient in that particular position. I have discussed this with the Division and they are not completely clear on the situation either. Their policy, however, is that a primary mission is training for combat efficiency with the replacement demands being met as well as we may when such demands are made.[9]

Bessell replied that "since this is but one of 2,000 letters from troop unit commanders who complain of my stealing officers from them, I am beginning to take it like a hard-shelled turtle." But he was worried about the basic conflict in training goals and agreed that some decision would have to be made. He predicted that "as in all such things, the decision will be a compromise which, of course, will work to the detriment of the older units." [10]

This was just the beginning. The agreement in April to launch a cross-Channel invasion of Europe by the fall of 1942 or the spring of 1943 created an unforeseen demand for new divisions and supporting units which made a shambles of any systematic assembly of troops. Perhaps, under the circumstances, no planned procedure for activating nondivisional units would have worked. The spotlight glare fell not upon procedures but upon the misjudgment over the number of these units that would be required and the optimistic estimate of the time they would need to become proficient. Units which had been filled and partially trained were quickly cut to skeleton proportions to provide cadres. Innumerable transfers of fillers from one organization to another, as unit priorities changed, disrupted organized training.

It was not until mid-summer 1942 that the War Department came to the full realization that the mobilization machinery had not been designed to handle this load, that manpower for both old and new units could not be marshaled within the available time and within the prescribed limit of Army strength. But as early as the end of April the condition of AGF nondivisional units was plain. The Inspector General considered them to be in such an alarming state that Marshall felt obliged to direct McNair on 25 April to take some remedial action. An added spur came from SOS, which began to lay plans to take over the basic and technical training of all AGF nondivisional units until such time as the units might be ready for joint training with corps and armies.[11]

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[9] Ltr, CO 4th Engr Combat Bn to Bessell, 24 Jan 42. OCE 210.3, Engrs Corps of.

[10] Ltr, Bessell to CO 4th Engr Combat Bn, 27 Jan 42. OCE 210.3, Engrs Corps of.

[11] Memo, ExO O&T for Brotherton, 21 Apr 42, sub: Time Required to Train Corps, Army, and GHQ Engr Trps. OCE 353, Pt. 18.

By the end of May, AGF devised an experimental Headquarters and Headquarters Detachment, Special Troops, a supervisory group of 5 officers and 16 enlisted men, to take charge of all nondivisional units at stations where such troops numbered between 2,000 and 5,000. A larger detachment of 8 officers and 31 men would go to stations where these troops numbered above 5,000. Armies and corps could activate these detachments at their discretion, with a full colonel in command.[12]

The detachments worked well where correctly administered, as at Camp Shelby, Mississippi. The separate units had one organization responsible for supervision. With a colonel in charge, the detachment competed on a fairer basis for post services and facilities. If officers with suitable backgrounds had been plentiful and had been assigned with care the system might have worked better everywhere. Too often the colonels in charge were those who could be spared most easily from other organizations. Most of their assistants were young officers with little experience. The unprecedented number of engineer unit activations made Engineer officers particularly scarce for these assignments. One of the worst situations grew up at Camp Carson, Colorado, where much friction developed between the engineer units—including depot companies and a maintenance company—and the detachment staff because of the preponderance of basic training. Although half of the troops were engineers, not a single Engineer officer was assigned to the Carson detachment. In fact, the entire detachment, in charge of units from several technical services, had come from the Infantry.[13]

Active and intelligent supervision of nondivisional units was doubly important in the summer of 1942. Too few men and too little equipment made careful co-ordination all the more valuable. The formation of detachments did bring all nondivisional units at any one station together, but these were units of several services, not a concentration of troops from any one service. The normal association concept prevented the activation of more than two or three units of a kind at any one post. Although the shortage of manpower was the main difficulty, the scattering of nondivisional units throughout the entire AGF training establishment was also a factor which precluded any pooling of scarce equipment. The practice of giving some detachments more than one post to supervise reduced the effectiveness of their supervision.

Divisions continued to have priority. Task forces assembling for definite duty overseas had to be at full strength. The War Department, in an attempt to spread the remaining manpower, organized other units without basics—approximately 10 percent of unit strength—but continued to pull cadres and OCS candidates from this reduced number. Some units received cadres and nothing more while units of higher priority filled.

Near the end of June, AGF headquarters took a fresh look at the number of units still to be activated in 1942 and compared this information with the shortages in existing units. Despite the concern of G–3 for the new divisions yet to be activated during the year, G–4, Brig. Gen. Willard S. Paul,

[12] Unless otherwise noted, the information for this section came from the following files: (1) 320.2, Binder 6 (S); (2) 321, Engrs, Strength (S); (3) 353, Engrs, Tng, Binder 1; (4) 370.5, Engrs, Binder 2; (5) 320.2, Comparative Strengths, Binder 1 (S).

[13] Memo, OCE for Engr Sec AGF, 5 Nov 42, sub: Extract From Rpt on 478th Engr Maint Co. OCE 333.1.

was by this time perturbed over the "spare parts":

> I am in favor of drastic action of some sort. *We have non-divisional units of several months service without personnel or equipment.* This constant robbing of units is doing harm all around. Why not stop "kidding" ourselves? I believe every unit should be given an overstrength so that by sailing date it will have at least T/O strength. If necessary to raise the ceiling on the total strength of the Army to do this, let's do it. We are scraping bottom every time a service unit is asked for—due to lack of foresight in planning. . . . I am loathe to see such a well established system upset by stopping the activations of new divisions. However, if we don't stop pulling long enough to loosen the rope around our necks we'll choke to death.[14]

To postpone the activation of new divisions until existing nondivisional units could be filled was heresy, and Paul stopped short of a direct statement advocating this course. But some means had to be found to bring the number of activations and the available manpower into alignment. Nondivisional service units were in the worst shape. Engineer service units with a T/O strength of 46,706 men had only 28,090, but even so they had a fair share of the service fillers. Making up 28 percent of AGF's T/O service strength, they held 28 percent of the men allocated to all AGF organizations of this type. Plans to activate 83 engineer nondivisional service units during the latter half of 1942 brought the total number of engineer fillers to be obtained by the end of the year to 68,041.

Help seemed close at hand. AGF proposed to obtain basically trained men to fill existing service units from three branch immaterial RTC's. Assured by The Adjutant General that heavy calls by selective service would fill all units by the end of August, AGF made no adjustments. By the first of August it was evident that plans had miscarried. New selective service policies changed the bases for reclassification, and allowed leave to selectees from reception centers. An immediate shortage developed which could not be rectified until the end of September.

The same system of transferring trained men from units of low priority to units of high priority had to continue, and each such transfer set into motion a chain reaction affecting several units. At the end of August, for example, OPD tried to funnel trained men into the Engineer Amphibian Command since amphibian units were slated to go overseas at an early date. Accordingly, OPD pulled 590 untrained reception center men from the 532d Engineer Shore Regiment and sent them to the 36th Engineer Combat Regiment. AGF received a directive to refill the 532d with trained men from an engineer combat regiment. The net result was one trained battalion in the otherwise untrained 532d, one untrained battalion in the 36th. The 133d Engineer Combat Regiment was left short one battalion and under the circumstances could not hope to get refilled and retrained within twelve months. Of the ten AGF engineer combat regiments, three had barely organized. The remaining seven, which should have had a combined strength of 9,870 men, contained 5,271 trained or partially trained men and 1,430 newly assigned selectees. The 36th and 131st, earmarked for a task force, were under OPD control. Only the 39th and 40th Engineers, of the five still under AGF control, were halfway prepared for early deployment after the withdrawal of the battalion from the 133d.

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[14] M/S, G–4 for Secy Gen Staff, 28 Jun 42, sub: Trp Unit Basis, 1942. 320.2, Binder 6 (S).

On 3 August McNair sent a strong statement to the War Department concerning the shortages and disruptions. The procurement of personnel must be accelerated to the full capacity of reception centers. Existing units must be filled to full T/O strength, including basics. The remaining units in the 1942 program should have a 15 percent overstrength upon activation. If possible, a reserve should be on hand for emergencies. If the reception centers could not handle this influx, then activations should be cut somewhere until units could be filled. Unaccountably, the War Department reply of 7 August did not get across the Potomac until 27 August, by which time McNair had worked out his own solution. To protect the divisions, he deferred the activation of all nondivisional units except those definitely earmarked for task forces. The War Department reply, when it did arrive, offered no different solution. The deferment of most of the nondivisional units was impractical since they would be needed soon. On the other hand, to postpone the activation of divisions was equally inadvisable. The War Department suggested that a number of units could be activated near the end of the year and filled during early 1943. AGF should meanwhile analyze its distribution procedures and draw up some formal system for activating nondivisional units.

The War Department believed that faulty mobilization procedures were to blame for the striking contrast between the preparation of nondivisional units and that of divisions. Accordingly, G–3 sent both McNair's memorandum of 3 August and the reply of 7 August to SOS, soliciting comments on possible procedures that would correct this deficiency in AGF. SOS took the opportunity to suggest on 15 September that all AGF nondivisional units be sent to SOS unit training centers through the thirteen weeks of basic and technical training under the control of the chiefs of services.

McNair refused to concede that SOS might be able to give more effective training to nondivisional units within centers:

> Training a unit technically in the SOS and turning it over to the Ground Forces for subsequent training is an application of the training center principle. This principle is well established and is deemed applicable to those cases where technical training is so special that it can not be given by the large units to which the unit being trained will be assigned eventually. Where it is practicable to train a unit, after activation, under the larger unit to which it will be assigned eventually, such procedure is definitely preferable, since the unit so trained grows up in its normal associations.
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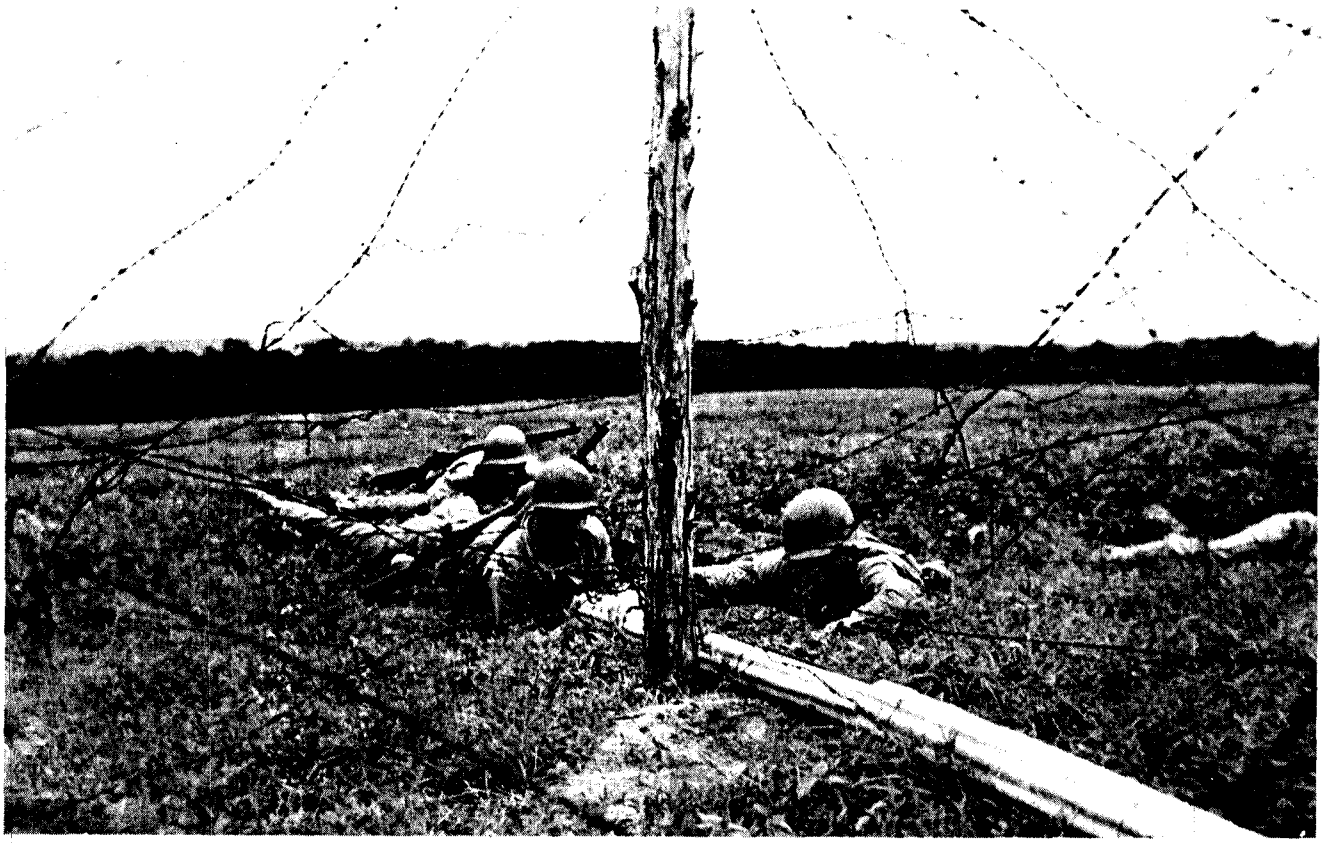
> For those units which may be assigned ultimately to either the SOS or AGF, it is deemed preferable that they be activated and trained under the Ground Forces, because teamwork is involved, as well as the support of combat units—considerations which deserve priority.[15]

The rivalry was an old one between AGF and SOS. Each sought control over several types of service units, such as the engineer general service regiments, which fell within the province of both commands. When the War Department made the responsibilities of each command more definite at the beginning of 1943 the intensity of feeling subsided. This bold attempt on the part of SOS, meanwhile, brought to an abrupt end a series of quiet negotiations between the Corps of Engineers and AGF to centralize the training of a part of the engineer units. AGF agreed that maintenance companies and equipment companies could best be trained at the Claiborne center, but no further centralization within the SOS train-

[15] Memo, McNair for G–3 WDGS, 30 Oct 42, sub: Service Units. 353, Gen Tng, Gen Corresp, 1943 (C).



ENGINEERS AT CAMP SWIFT, TEXAS, *push a bangalore torpedo under barbed wire entanglement during a training exercise, June 1943.*

ing establishment was conceivable after McNair reiterated the importance of teamwork and the necessity for support of normally associated units from the beginning of training.[16]

But there were those within the AGF organization who were less sure than McNair about the importance of early support and wanted some centralization. At AGF headquarters itself, McNair's own G–1, Col. Alexander R. Bolling, thought the center plan to be eminently practical:

> We have it for antiaircraft and Armored Force units. We were forced to it in the case of Tank Destroyer units. If the idea is sound for these three, it is certainly sound for nondivisional units. . . . No service unit can support anything at least for its first thirteen weeks of existence. After its basic unit training is completed it can then receive its training in its support role after it leaves a unit training center.
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> The parent unit idea and the absence of the unit training center idea thus far has resulted in sending non-divisional units overseas whose state of training is subject to criticism.[17]

Bolling was therefore of a frame of mind to support the attempt of General Krueger, Third Army, to concentrate for training purposes certain types of units by branches. Bolling could be sure of the neutrality if not the active support of Paul, G–4, because of Paul's growing apprehension over the unprepared state of these units. But powerful opposition could be expected from G–3, Col.

[16] Ltr, Gorlinski to CG Claiborne EUTC, 8 Sep 42. OCE 353, ASFTC Claiborne, Pt. 1.

[17] M/S, G–1 for Plans, 16 Dec 42, sub: Activation of Nondivisional Units (initial sub: Pers and Tng Status of Units of the AGF). 320.2, Binder 6 (S).

John M. Lentz, who subscribed wholeheartedly to McNair's theory of decentralization.

In mid-September 1942 Krueger began to send a number of nondivisional engineer units to Camp Swift, Texas. A request on 14 September to move an engineer water supply battalion, at cadre strength, from Camp Maxey, Texas, to Swift, met with no opposition from Lentz. Believing his over-all plan to be approved, Krueger asked on 19 November to have two engineer heavy ponton battalions transferred from Maxey to Swift. At this point, Lentz acted. The Third Army plan, according to his understanding, had not implied that any existing units would be moved at full strength. Besides, the five engineer units at Maxey, with a total strength of 2,735 men, already constituted a concentration that should not be disturbed. Hughes interposed that mere concentration was not enough. The Swift site on the Little Colorado was much better than the Maxey location ten miles from the turbulent Red River. Despite the support of Paul, Hughes could not prevail. In the end he had to admit that ponton units could train at Maxey. Early in December Krueger had to abandon the whole project.[18] McNair decreed that "as to grouping similar units for training . . . I am not too strong for it even though the groups are under AGF."[19]

The training of nondivisional service units improved so little, despite the formation of the special troops detachments, that the War Department ran another check on them in November. On 5 December The Inspector General reported that AGF had made some progress and that any major shift in the current setup would be expensive and probably introduce more confusion than clarification. AGF had finally worked out an activation procedure for nondivisional units. Introduction of the group form of organization would bring related units of each service together in one tactical organization. The War Department therefore adopted a wait-and-see attitude.

The War Department had reason to be apprehensive, since the size of this training task at the end of 1942 had begun to approach that of divisions. AGF nondivisional strength stood at over 500,000 men and all indications pointed toward an increase in 1943. The 120 engineer nondivisional units in training in the United States at the end of December held almost 70,000 men as contrasted with 53 divisional units of battalion size.[20]

Flexible grouping of engineer units began early in 1943. On 20 January AGF notified its armies, separate corps, and separate commands that the engineer combat regiment would soon be reorganized into an engineer combat group headquarters and two separate combat battalions. Each group headquarters would have supervision over several combat battalions during training, as well as over a variable number of other engineer nondivisional units, and would remain thereafter in tactical control. The 31st, 132d, and 133d Engineer Combat Regiments were the first to be reorganized, forming the headquarters for the 1114th, 1118th, and 1104th Engineer Combat Groups, respectively, in early March. By the end of May 1943, as the result of reorganizing most of the 13 combat regiments and activating additional units, there

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[18] First Draft of Ltr, AGF to Third Army, 29 Nov 42, sub: Transfer of 489th Engr Water Sup Bn to Camp Swift, Tex., with Memo for Record. 321, Engrs, Strength, Binder 2 (S).

[19] M/S, McNair for Gen Staff AGF, 28 Dec 42, sub: Activation of Nondivisional Units (initial sub: Pers and Tng Status of Units of the AGF). 320.2, Binder 6 (S).

[20] Memo, G–3 WDGS for CofS, 30 Dec 42, sub: Tng Sv Units. 353 Tng, Binder 3 (S).

were 22 group headquarters and 57 nondivisional combat battalions in the AGF training establishment. These new units held 37,434 men out of a total of 79,026 in all of the 202 engineer nondivisional units.[21]

OCE remained unconvinced of the benefits to be derived from the group organization and resisted a similar conversion of general service regiments in ASF. Sturdevant attacked the group concept on 1 May as "cumbersome, wasteful and probably unworkable." [22] This hostile statement, intended for the ears of ASF, reached AGF headquarters within the week. In the highly charged discussions which followed at McNair's headquarters, many of the staff labeled Sturdevant's remark "unwarranted, ill-considered, and unproven." [23] But many of his detailed criticisms had validity and forced AGF to re-examine the tactical employment of the engineer combat group, its overhead allotment, and the command and supply relationships between group and army and between group and corps.[24]

Although the Engineer Section agreed with OCE that the group concept should not be applied to ASF units, the section had welcomed the group idea in AGF as a method by which to provide some concentration and greater control in the training of nondivisional units. As Hughes testified later, "In view of the inability to obtain adequate supervision of training of separate engineer companies, water supply, topographic, and ponton battalions there were more factors in support of the group, generally constituted along the line of a general construction organization, than in retaining the combat regiment where it was impossible to get the regiment to accept unprejudiced supervision of attached units." [25] Moreover, the group was a tactical organization. Several increments of separate units could be attached for training without fear of criticism from those who insisted upon normal associations.

Mine Warfare

Early in 1943, just as the combat groups were being organized, AGF became acutely conscious of one of the major training deficiencies which had developed during the previous period of neglect.[26] Combat engineers, with only a few hours of instruction in lifting and placing mines, found this type of work one of their principal duties in North Africa. Accidents occurred when untrained men fused mines at dumps before loading and transporting them to the field. The drivers of vehicles could not recognize mined areas and drove into them blindly.[27] McNair took cognizance of the situation in a note to his chief of staff on 23 March 1943:

Mr. McCloy who recently returned from NATO, dwelt at considerable length on the proposition that our troops are nowhere near

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[21] (1) Ltr, AGF to CGs Second and Third Armies *et al.*, 20 Jan 43, sub: Orgn and Asgmt of Group Hq and Bns. OCE 322, Engr Combat Units. (2) Ltr, TAGO to CGs Eastern Defense Comd *et al.*, 5 Mar 43, sub: Redesig and Reorgn of Engr Combat Regts, with Incl 1, Redesig and Reorgn of Engr Combat Regts. Same file.

[22] Memo, Sturdevant for CG ASF, 1 May 43, sub: T/Os for Engr Gen Sv Units. 320.3, T/Os, Binder 1 (S).

[23] M/S, G–3 for CofS, 25 May 43, sub: Gen Sv Regts. 320.3, T/Os, Binder 1 (S).

[24] AGF 320.3, T/Os, Binder 1 (S).

[25] Ltr, Hughes to EHD, 28 Sep 55, with Incl.

[26] With the exception of those documents cited separately, this section is based upon: (1) 353, Engrs, Tng, Binder 1 (S); (2) 353, Engrs, Tng; (3) 352, Engr Sch.

[27] Incl, Rpt of Mil Obsvr [27 Jan–20 Feb 43] to Ltr, Lt Col J. R. Dryden to CGs Second and Third Armies *et al.*, 13 Mar 43, sub: Obsvr Rpt. AGF 319.1, Foreign Obsvrs, Binder 2 (S).

sufficiently mine conscious. The fighting over there is very loose—the battlefield looks very empty indeed; but actually the place is strewn with mines—thousands of them everywhere. The Germans are past masters at both sowing and reaping mines. He quoted our people as complaining that they need more engineers for mining, whereas he contended that every man of whatever unit or arm must be engaged in mine laying with both skill and speed. He classed the activity as virtually the introduction of a new arm on the battlefield.

. . . . . .

. . . we must continue to stress the use of mines in large quantities in our training—especially maneuvers.[28]

The general lack of mine consciousness among AGF troops stemmed from a War Department policy which delegated to engineer units the major responsibility for laying and removing mines. Infantry units had practically no familiarity with these devices. During 1942 only 80,000 metallic practice mines had been issued to units and 145,000 had been supplied for maneuvers. Although the Army Supply Program for 1943 called for 150,000 for units and 710,000 for maneuvers this amount was inadequate to cover the requirements for practice mines if instruction in mine warfare were to be extended to all AGF units. Nevertheless, the AGF staff determined to try. To the dismay of the Ordnance Section, Hughes took McNair at his word and requested a million nonmetallic practice mines. None were in production and no deliveries could be expected before the end of the summer. Only 268,000 metallic ones with nonexplosive dummy fuses could be had immediately.

Regardless of the types and quantities of mines available some training had to begin at once. By 19 April AGF had worked out a system for spreading this instruction as rapidly as possible down to the company level of each unit without disrupting other training. Two identical mine schools would be set up, one in the east and one in the west. A small quota of officers from each AGF unit would attend one or the other of the schools and qualify as instructors for courses which they would then conduct within their unit. G–3, AGF, set up a requirement for a basic one-week course in gapping mine fields to which all AGF units would send quotas. The men from engineer units would take an additional week of advanced work which would include laying and marking deliberate mine fields, and disarming enemy and Allied mines. The Engineer School at Belvoir was the logical focus for instruction in the east and the Desert Training Center was the tentative choice in the west. The big question, on which all the rest of the plan hinged, was whether or not the Corps of Engineers would supply the instructors for both schools. An assistant to G–3 surmised on 20 April that it was "questionable" whether the Engineers "will go with a school other than Belvoir which will put us up against it. However we will have to make the best of it." [29]

Three days later, contrary to expectations, the Engineers not only consented to take on the job but eliminated Belvoir from the plans altogether. Instead of two permanent schools, the Engineers suggested a single traveling detachment which would visit in turn the major concentrations of troops. Broadening the curriculum somewhat, the Engineer School added the laying of hasty mine fields and the neutralization of booby traps to the first week. The school selected thirteen instructors, gave them a

[28] M/S, CG for CofS, 23 Mar 43, sub: Mine Detection and Removal. 353, Engrs, Tng, Binder 1 (S).

[29] M/S, Col James H. Phillips for Ennis, 20 Apr 43, sub: Instr in Clearing Gaps in Mine Flds. 352, Engr Sch.

SOWING A MINE FIELD, *a phase of instruction in mine warfare.*

short refresher course, and sent them to the DTC in late May. Under the guidance of Maj. Theodore F. Astrella, the detachment conducted the first two-week course, ending on 12 June. Some 200 officers attended the first week and about 60 engineers remained for the second advanced week. In June and July the detachment repeated the course with the same number of students at the Tennessee Maneuver Area and at the Louisiana Maneuver Area, drawing quotas from the Second and Third Armies, respectively. By August, the turnover of units at the DTC justified a return to that area for a repetition of the first course. So popular did the school become and so well did the system work that this pattern became the accepted procedure for training AGF units in mine warfare. AGF considered the training valuable enough for it to allow units in advanced stages of preparation to send quotas to the course. Had the supply of foreign mines and demolition equipment been adequate the work of Astrella and his instructors would have been even more effective. The traveling detachment remained active until mid-April 1944, when it completed the indoctrination of AGF units and returned to the Engineer School.

Drop in Quality of Fillers in 1943

By the summer of 1943 the supervision and training of combat engineers had improved through the formation of the groups and through the work of the traveling mine detachment.[30] In June, the activation procedures which had been drawn up the previous November and made final in

[30] In addition to the citations which appear with the text, this section is based upon: (1) 327.3, Drafted Men; (2) 352, Engr Sch; (3) 341, Recruiting; (4) 352, Army Sv Schs and Staff Colleges (C).

March went into effect. These specified that officers and enlisted cadres be selected and trained for several months before unit activations, scheduled the arrival of the men and fillers at appropriate intervals, and indicated a definite percent of equipment that had to be on hand upon activation. Perhaps most important, personnel was temporarily more plentiful. Deferment of the plan to invade Europe allowed activations to proceed at a slower pace. Units filled within a reasonable length of time after formation. Training progressed in more orderly fashion following the publication of a twelve-week unit training program on 2 August.[31]

Although more men were available in the first half of 1943, their quality was alarmingly poor. New AGCT distribution figures computed in March showed that AGF units should expect 89 percent of Negro fillers and 43 percent of white fillers to fall in grades IV and V. AGF therefore welcomed the possibility that the voluntary induction program of the Corps of Engineers would leaven the mass with technically proficient men drawn from parallel civilian jobs.

The voluntary induction program called for the service commands to recruit 6,000 engineer specialists in March and 9,000 a month for the rest of the year. Of the March quota, AGF was supposed to get 2,321 in 31 different categories. The men for AGF were to collect at the ERTC's at Wood and Belvoir before assignment. But these specialists proved harder to draw into the service than had been anticipated. By the first of May the service commands had produced only 1,046, and OCE informed Hughes that AGF should expect at best no more than 1,000 a month.

Even with this reduced number, OCE and AFG could not agree upon procedures. Hughes, suspicious of the quality of these men, suggested they should go from reception centers to reclassification pools before assignment to units. The AGF Classification and Replacement Division objected to the use of Wood and Belvoir and recommended that three infantry centers, Fort McClellan, Alabama, Camp Robinson, Arkansas, and Camp Roberts, California, be designated as collecting points. Bolling liked Hughes' idea of running the men through a reclassification process but preferred that it be done after a period in one of the three infantry centers. In May the Engineers attempted to shift the AGF quotas from the ERTC's to the UTC at Claiborne, where ASF quotas were already going. McNair countered this move with a strong request that AGF quotas go to the three infantry centers. For two months the Engineers acquiesced, and AGF had undisputed control. By July, neither the Engineers nor AGF was pleased with the setup. AGF protested that it had got only 8 percent of the specialists it had been led to expect and only half of this number had any of the skills originally designated. OCE, on the other hand, accused AGF of sabotaging the voluntary induction program by failing to promote the men it did get. This situation in turn affected adversely the rate of induction, OCE charged. Accordingly, in July, OCE switched the AGF quotas to Claiborne where they entered a common pool from which, presumably, AGF and ASF requisitions would be filled in turn. While in the pool, the specialists obtained ratings. AGF did not like the idea of accepting men in grades determined by ASF, even though the men had above average AGCT scores. G–1,

[31] (1) M/S, G–3 for CofS, 12 Mar 43, sub: Plan for Activation of Nondiv Units. 320.2 (S). (2) MTP 5–4, Unit Training Program for Engr Units of AGF, 2 Aug 43.

AGF, for that reason wanted to limit them to 50 percent of T/O strength in new units and exclude them from cadre positions. Control of these men and procedures for processing them were still in a state of flux on 11 September when the War Department suspended the whole program. AGF benefited little.[32]

This minor skirmish over granting grades to engineer volunteers brought out quite clearly that AGF resented ASF's making any decisions affecting AGF personnel. Nevertheless, arrangements of a more permanent nature, involving a larger body of men, gave ASF control over several categories of engineers. AGF, like AAF, had no technical schools in which to train engineer specialists. Such men had to train at ASF installations under the direction of the Corps of Engineers. The number and types of specialists provided for AGF units could thus be manipulated within ASF. Getting sufficient allotments of AGF engineers into Engineer courses proved to be a continuous struggle for the Ground Engineer Section. In addition, the majority of Engineer officers came from the OCS at Belvoir, subject to no direction from AGF during the training period. ERTC-trained replacements for engineer nondivisional service units also came under ASF jurisdiction.[33]

The control of basically trained fillers from the ERTC's became involved in a larger issue between SOS and AGF early in 1943. In mid-January Bolling and an assistant met with representatives of the War Department General Staff to arrange for some decentralized system for distributing personnel. All agreed that each command should control the assignments of those graduates of its own RTC's which would go to units within its own jurisdiction. Left unsettled was the control of graduates of one command which would fill units of the other. On 29 January AGF heard unofficially that the Military Personnel Division (MPD) of SOS was setting up a control unit to make decisions upon such matters wherever SOS and AGF could not agree. Bolling was indignant, but telephone calls to the General Staff brought assurances that the control unit would not interfere with AGF. A second conference on 1 February, this time including SOS, confirmed that the War Department had all but decided to give this authority to MPD. The next day Bolling reported to the AGF chief of staff: "If this controlling agency goes through, I can see where we will finish in second place with the AAF tying for first with the SOS. . . . The weasel words in Circular No. 59, which state in substance that MPD is an operating agency of G–1, certainly should not be construed to permit the SOS to control personnel within the Ground Forces." [34] The Ground Adjutant General summed up the feeling in AGF, that "while it is not intended to charge any individual or agency with unfair practices, the personal equation must be recognized." [35] Nevertheless, on 13 February, MPD became the over-all controlling agency for allotting and distributing personnel, effective as of 1 March.

There matters stood until the second half of 1943. The landings on Sicily in July and on the Italian mainland in September stepped up the calls for overseas replacements. On 21 July AGF learned from The

[32] M/S, CofEngrs for CG ASF, 14 Apr 43, sub: Volunteer Induction for Engrs. OCE 344.3, Engrs Corps of, Pt. 1.

[33] Interv, Gilbert, 14 Sep 55.

[34] M/S, G–1 for CofS, 2 Feb 43, sub: Filler Repls, Results of WD Conf on. 341, Recruiting.

[35] M/S, Ground Adj Gen for CofS, 2 Feb 43, sub: RTCs. 341, Recruiting.

Adjutant General's Office that MPD had issued a new policy. The total output from the ASF RTC's would be assigned to replacement depots for shipment overseas or to ASF units in training. None would go to AGF units until a surplus existed—an unlikely occurrence. Alerted service units of AGF would have to fill to strength from units in a less advanced stage of training. Upon questioning, MPD protested that it intended no discrimination. The War Department had simply placed such high priorities upon so many ASF units that few of the units of low priority in either command could expect many RTC men. The Adjutant General's Office, however, insisted that its instructions from MPD were to fill ASF units, regardless of priority, before assigning any RTC men to AGF. An appeal to the General Staff resulted in a conference on 28 July at which MPD agreed that unit priorities would be the sole factor in making assignments. But as far as AGF engineer units were concerned the conference had little effect. Between the first of July and the last of September only 179 trained replacements from ERTC's entered AGF units. An upturn in numbers after that time brought the total during the last six months of 1943 to only 1,146, contrasted with 9,798 to ASF units and 11,510 to depots.[36]

During the same six months the War Department cut the allotments of AGF engineers to Engineer specialist schools. In place of the old allotment of 7,464 officers and men to the Engineer School, ERTC's, or to civilian institutions, a new allotment of 12 June allowed AGF to send only 1,638 officers and 4,218 enlisted men, or a total of 5,856. The actual numbers so trained came closer to 6,000 but by the end of 1943 a new quota for the next six months cut still deeper, to 3,048.

The lower quality of AGF personnel, the cut-backs in specialist quotas, and the higher priorities given to ASF units all contributed toward making the training of AGF engineer units more difficult. Granted, ASF units held a higher proportion of technicians than those of AGF, but demands for combat engineers by the end of 1943 had begun to swell the numbers of these units in the troop basis and therefore to raise the total demand for AGF specialists. By the end of the year, AGF engineers accounted for 172,223 of the total engineer strength in the Army as compared with 221,434 in ASF and 99,457 in AAF.[37]

Harvest of Confusion

By early 1944 demands from overseas confirmed a stand which Hughes had taken months before. The Army needed more engineer combat support. Accordingly, between February and July, inclusive, AGF activated 53 nondivisional combat battalions, making a total of 103 such units activated and in various stages of training at the end of July. Troops to fill these units again became scarce as preparations for the landings on the coast of France in June called for the services of every available man. A new system of classification sent the most desirable reception center men to infantry units.[38] Fillers for engineer units were particularly hard to obtain. By May, many of the combat battalions, activated for months, remained at cadre strength. The 286th Engi-

[36] Tng of Repls, Annex I.

[37] Incl, Tab A, Distr of Total Army Strength, to M/S, Plans for CofS, 13 Dec 43, sub: Trp Basis (1944). 320.2, Trp Unit Basis, 1943, Folder 5 (S).

[38] For a discussion of the Physical Profile System see Palmer, Wiley, and Keast, *op. cit.*, pp. 64–76.

neer Combat Battalion, activated in December 1943, received half of its fillers in March and the rest in April, making two disjointed training programs necessary. The 1272d, activated in April 1944, could not begin training until three months had passed. Fillers came from a variety of sources, including disbanded antiaircraft, coast artillery, and other types of units made superfluous by the course of the war. Chemical mortar battalions as well as engineer camouflage battalions found themselves overnight relabeled engineer combat battalions. Specialists from one type of unit did not necessarily convert easily into those of another. The reclassification system broke down completely under the strain. Adjustments in some cases were severe, and much good training had to be wasted. Even within the Engineer framework, the change from topographic unit to maintenance company or depot company was not easy.

The reduction of specialist quotas to ASF schools threw the major part of this work of retraining upon the thirty-five combat group headquarters and the individual units. Administrative loads and paper work piled up. To relieve the strain, AGF in July attached some of the groups to special troops headquarters detachments which had been increased in size to handle the larger task. This arrangement was particularly helpful in preparing troops for overseas movement. Group headquarters often shipped out ahead of their battalions and companies, leaving these units without supervision during a critical period.[39]

The new administrative setup did provide some help, but the acute need for nondivisional units in active theaters led the War Department to cut training time to a minimum. An accelerated training schedule, published on 14 July 1944, divided such units into three classes. A unit reorganized from another unit within the same branch or one which received the majority of its personnel from an RTC of the same branch had the shortest time in which to prepare. A unit converted from another branch had a longer period. Units with the longest training time were those filled from reception centers. For example, a combat battalion might train 23 weeks, 27 weeks, or 32 weeks, according to its classification. Group headquarters, topographic battalions, and all units of company size except combat companies were to have no joint training at all. The training time for group headquarters and for combat battalions with the same type of fillers did not correspond; group headquarters would ship out two months ahead of combat battalions organized at the same time.

Although the major part of AGF engineer activations had taken place by July 1944, those units already organized were affected by the accelerated program, being required to adjust the remainder of their time to the new schedule. The Fourth Army reported on 3 August that all 53 engineer units under its control, including 23 combat battalions, would complete unit training under reduced programs by the end of the year. An investigation of this anomalous situation revealed that the Fourth Army had misinterpreted the directive and had adjusted the total training time of several engineer units rather than shorten the remaining portions of the program. Hughes was particularly agitated over the 1696th Engineer Combat Battalion, a Negro unit filled with AAF personnel, for which no engineer cadre had been available. Thirteen weeks of unit training was the mini-

[39] (1) AGF Status of Equip and Pers as of 31 Jul 44. (2) Holmer, Hist of the Engr Sec Hq AGF.

mum amount of time required under any training program, he protested, and insisted that the Fourth Army comply more accurately with the new schedule.[40]

By fall of 1944 the filling and training of engineer nondivisional units reached a chaotic state. Just at this time, equipment, which had been reasonably plentiful for training purposes since the summer of 1943, again became scarce. Instead of shipping units with the equipment used during training, the War Department had established a policy of preshipping quantities of new equipment to a stockpile in Great Britain. Theoretically, the used equipment which the units left behind in this country would serve subsequent increments of units in training. By fall of 1944, however, the demands for engineer equipment so far exceeded expectations that ASF began to call in this used equipment for rehabilitation and reuse overseas. Specialist training within the units, with little time and less equipment, was next to impossible. The few thousand specialists which ASF still trained for AGF engineers spent very little time with their units beyond the few weeks of basic military training. Orders for the shipment of units at whatever stage of training became more frequent. The climax came in October with the call from ETO for 65 engineer combat battalions, no matter how well prepared they might be. The demand was so sudden that 1,800 specialists at ASF schools could not be recalled. Other battalions of lower priority were in such poor shape that few substitutes could be found. Fillers with no particular qualifications for these jobs had to be thrown in at the last minute to bring the units to strength before departure. The drop in quality of AGF engineers which observers noted in early 1945 occasioned no surprise in the Engineer Section.[41]

During 1945 the training of AGF engineers became progressivel, less important as units moved overseas to all theaters. By the first of August 1945 only 971 officers and 15,879 enlisted men remained in training, including units and individuals being redeployed from one theater to another or returned to the United States through the rotation plan.[42]

Of all the AGF engineer units, the most controversy over preparation and control centered upon the nondivisional combat battalions. Having less precise missions than such units as heavy ponton battalions, depot companies, or topographic units, nondivisional combat battalions were perhaps for that reason more easily diverted to duties for which they were not intended. In Europe, they performed heavy construction work and fought as infantry for extended intervals. In the Southwest Pacific, long a theater of secondary priority, the few engineer units available had to be versatile enough to accomplish whatever tasks happened to be most urgent. Nondivisional combat battalions served principally as construction battalions until the Philippines campaign. This theater persistently requested the Engineer Section to add more and heavier equipment to these units and reorganize them for three-shift construction jobs. Hughes accused the Southwest Pacific theater in particular of requesting the wrong types of units, but prepared special lists of

[40] 353.03, AGF Instr Visits (C).

[41] (1) Roland G. Ruppenthal, *Logistical Support of the Armies,* Volume I: *May 1941–September 1944,* UNITED STATES ARMY IN WORLD WAR II, (Washington, 1953), pp. 235–240. (2) AGF Bd Rpts, Sep 44–Mar 45.

[42] Strength of the Army, 1 Aug 45, p. 28 (C). AGO Special Reference Collection.

equipment to meet shifting requirements wherever needed. In the matter of control, OCE never accepted the flexible group idea in good grace. At the end of the war, the Chief Engineers in both the European and Pacific theaters still preferred the combat regiment and said so. Opinion at lower levels of command remained mixed, according to the experience of individual officers.[43]

Neither AAF nor AGF engineer units had the advantage of early centralization within unit training centers as did ASF units, but pressure for the formation of such centers grew strong in both commands. AAF and AGF experimented for a time with intermediate types of organizations to which a few units could be attached. AAF finally organized EAUTC's comparable to the ASF engineer centers, but AGF, under the domination of McNair, never went beyond the limited concentrations possible under the engineer combat group.

[43] (1) *Final Engr Rpt, ETO,* pp. 131, 135, 139–40. (2) OCE GHQ AFPAC, *Critique,* Vol. III, in *Engineers of The Southwest Pacific 1941–1945* (Washington, 1950), pp. 377–79. (3) Engr Sec Sixth Army, Engineer History, Ch. XI. MS, Lt Gen Samuel D. Sturgis files. (4) 319.1, Binder 1, 1945. (5) 319.1. (6) 319.1 (S).